Grade 5 CRT Item Specifications

"Enduring and Important Knowledge" identified in previous grade-levels may be included within the context of some problems.

Prioritized Standards		Knowledge/Skills Assessed	Item Specifications
1.5.1 Use and apply multiplication and corresponding division facts through 12's. (C) **1.5.2** Generate and solve addition, subtraction, multiplication, and division problems using whole numbers in practical situations. (P, PS) **1.5.3** Use order of operations to solve problems. (P) **1.5.4** Add and subtract decimals; multiply and divide decimals by whole numbers in problems representing practical situations. (P, PS) **1.5.5** Multiply and divide multi-digit numbers by 2-digit numbers, including strategies for powers of 10. (P) **1.4.6** Read, write, order, and compare whole numbers. (C, P) **1.4.7** Use estimation to determine the reasonableness of an answer. (P, PS) **1.5.8** Use and identify place value. (C) **1.5.9** Use models and drawings to identify, compare, add, and subtract fractions with like denominators and to add and subtract decimals; use both to solve problems (C, P, PS)	**Concepts**	**1.5.1** Use and apply multiplication and corresponding division facts through the 12's. **1.4.6** Read, write, and compare whole numbers. **1.5.8** Identify the correct place value. **1.5.9** Use models and drawings to identify and compare fractions with like denominators and decimals.	**1.5.1** Limit to 12 x 12 = 144 and corresponding division facts. Practical situations involving number facts are acceptable. **1.4.6** Limit up to 999,999. **1.5.8** Items may ask a student to identify a place value or represent a standard-form numeral in expanded form and vice-versa. Limit up to 9,999,999. **1.5.9** Limit denominators to 16 and decimals to the hundredths place.
	Procedures	**1.5.2** Solve addition and subtraction problems using whole numbers. **1.5.3** Use order of operations to solve problems. **1.5.4** Add and subtract decimals; multiply and divide decimals by whole numbers. **1.5.5** Multiply and divide multi-digit numbers by 2-digit numbers, including strategies for powers of 10. **1.4.6** Order whole numbers. **1.4.7** Use estimation to determine the reasonableness of an answer. **1.5.9** Use models and drawings to add, and subtract fractions with like denominators and to add and subtract decimals.	**1.5.2** Limit to one-step only. . **1.5.3** No use of exponents. Up to one set of grouping symbols may be used. **1.5.4** No models. Decimals limited to hundredths position; division terminates at or before hundredths. **1.5.5** Whole number factors and dividends only. Remainders can not be expressed as a decimal (5/2 = 2r1 but not 2.5). **1.4.6** Limit up to 999,999. **1.4.7** Estimate can not exceed 999,999. Limited to one-step estimation only. **1.5.9** Limit denominators to 16 and decimals to the hundredths place.
	Problem Solving	**1.5.2** Solve addition, subtraction, multiplication and division problems using whole numbers in practical situations. **1.5.4** Add and subtract decimals; multiply and divide decimals by whole numbers in problems representing practical situations. **1.4.7** Use estimation to determine the reasonableness of an answer in problems representing practical situations. **1.5.9**. Use models and drawings to add, and subtract fractions with like denominators and to add and subtract decimals to solve problems.	**1.5.2** Items can be either one-step or two-steps. Okay to mix operations. **1.5.4** No models. Decimals limited to hundredths position; division terminates at or before hundredths. **1.4.7** Estimate can not exceed 999,999. Two-step estimation problems only. **1.5.9** Limit denominators to 16 and decimals to the hundredths place.

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Prioritized Standards		Knowledge/Skills Assessed	Item Specifications
2.4.1 Identify, describe, and represent numeric and geometric patterns and relationships. (C, P, PS) **2.5.3** Using whole numbers as a replacement set, find possible solutions to such inequalities as 8 + 4 > n. (P) **2.5.4** Use variables in open sentences to describe simple functions and relationships. (C) **2.5.5** Generate number sequences given the first term and any basic computation rule (e.g., given a 4 and the rule of add 6: = 10,16,22,28,…). (P)	**Concepts**	**2.4.1** Represent numeric and geometric patterns. **2.5.4** Use a variable in open sentences to describe simple functions and relationships.	**2.4.1** Find a missing term; Patterns should be numeric or numeric patterns represented by geometric shapes.
	Procedures	**2.4.1** Represent numeric and geometric patterns and relationships. **2.5.3** Using whole numbers as a replacement set, find solutions to equations and possible solutions to inequalities. **2.5.5** Generate number sequences given the first term and any basic computation rule (e.g., given a 4 and the rule of add 6: = 10,16,22,28,…).	**2.4.1** Extend the pattern; Patterns should be numeric or numeric patterns represented by geometric shapes. **2.5.3** Inequalities with isolated variables (e.g., 8 + 4 > n). **2.5.5** Item may or may not be in context.
	Problem Solving	**2.4.1** Identify, describe, and represent numeric and geometric patterns.	**2.4.1** Write the rule to describe a pattern. Patterns should be numeric or numeric patterns represented by geometric shapes.

Grade 5 CRT Item Specifications

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Prioritized Standards		Knowledge/Skills Assessed	Item Specifications
3.4.2 Measure and compare length in inches, feet, yards, and miles (to the nearest 1/4, 1/2); measure, and compare lengths in metric units (millimeter, centimeter, meter, kilometer); convert within each system. (P) **3.5.3** Estimate measures of length, volume, capacity, quantity, and weight; communicating the degree of accuracy needed when a more precise measure is required. (C, P) **3.5.4** Determine totals and change due for monetary amounts in problem solving situations. (PS) **3.5.5** Communicate the difference between perimeter and area. (P, PS) **3.5.6** Identify equivalent periods of time, including relationships between and among seconds, minutes, hours, days, months, and years. (e.g., 60sec = 1min). (C, P, PS)	**Concepts**	**3.5.3** Communicate the degree of accuracy needed when a more precise measure is required.	**3.5.3** Items should ask students which measurement requires the most accuracy and which measure should be more precise.
		3.5.6 Identify equivalent periods of time.	**3.5.6** Items limited to equivalent periods of time, such as one hour equals sixty minutes.
	Procedures	**3.4.2** Measure and compare length in inches, feet, yards, and miles (to the nearest 1/4, 1/2); measure, and compare lengths in metric units (millimeter, centimeter, meter, kilometer); convert within each system.	**3.4.2** Measure to the nearest ½ inch, or ¼ inch, or ½ centimeter. Comparisons and conversions of length measurements are limited to the following: customary units are limited to the use of inches, feet, yards, and miles, metric units are limited to the use of millimeters, centimeters, meters, and kilometers. Conversion limited to parameters defined in numbers and computation section.
		3.5.3 Estimate measures of length, volume, capacity, quantity, and weight.	
		3.5.5 Determine the perimeter and the area of simple plane figures.	**3.5.5** Item limited to perimeter of polygons, areas of right triangle and rectangles (including squares).
		3.5.6 Identify equivalent periods of time, including relationships between and among seconds, minutes, hours, days, months, and years. (e.g., 60sec=1min).	**3.5.6** Items limited to combined measures such as seventy seconds equals one minute, ten seconds. Items should have conversion factor imbedded.
	Problem Solving	**3.5.4** Determine totals and change due for monetary amounts in problem solving situations.	**3.5.4** Solve problems involving sums and differences of money.
		3.5.5 Solve problems involving perimeter and area of simple plane figures and communicate the difference between perimeter and area.	**3.5.5** Item limited to perimeter of polygons, areas of right triangle and rectangles (including squares). Communication about the difference in perimeter and area limited to **constructed response** items only.
		3.5.6 Solve problems involving time relationships.	**3.5.6** Items should have conversion factor imbedded.

CRT 5 Item Specifications

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Prioritized Standards		Knowledge/Skills Assessed	Item Specifications
4.5.1 Draw and classify triangles, according to their properties (e.g., right, scalene, obtuse, equilateral); identify and draw circles and parts of circles, describing the relationships between the various parts (e.g., central angle, arc, and diameter). (C) **4.5.2** Identify shapes that have congruence, similarity, and/or symmetry of figures using a variety of methods including transformational motions (e.g., translation/slide, rotation/turn, reflection/flip, and enlargement/reduction) and models, drawings, and measurement tools. (C) **4.5.3** Using a grid, identify coordinates for a given point or locate points of given coordinates in the first quadrant. (C) **4.5.4** Identify, describe, compare, and classify two- and three-dimensional figures by relevant properties including number of vertices (corners), edges, and shapes of faces; identify and predict the effects of combining, dividing, and changing shapes into other shapes. (C, PS) **4.5.6** Identify, describe, define, and draw geometric figures including points, intersecting, perpendicular, and parallel lines, line segments, rays, angles, and planes. (C)	**Concepts**	**4.5.1** Classify triangles according to their measurement; identify circles and parts of circles. . Identify and use the relationship between radius and diameter of a circle	**4.5.1** Item can use the following triangles: right, scalene, isosceles, obtuse, equilateral. Parts of circles limited to: central angle, arc, diameter and radius. Items may ask students to find radius given the diameter or find the diameter given the radius.
		4.5.2 Identify congruent, similar or symmetric geometric figures; identify examples of transformation geometric motions (i.e., translation/slide, rotation/turn, reflection/flip, and enlargement/reduction)	**4.5.2** Limited to **one** transformation only.
		4.5.3 Using a grid, identify coordinates for a given point or locates points of given coordinate.	**4.5.3** Points and coordinates can only appear in the first quadrant.
		4.5.4 Identify, compare, and classify two- and three-dimensional figures by relevant properties.	**4.5.4** Figures should include a clear description or diagram of the number of vertices (corners), edges, and faces as well as shapes of faces. Two-dimensional figures: circle, triangle, rectangle, square, rhombus, hexagon, octagon and trapezoid. Three-dimensional figures: cube, sphere, rectangular prism, triangular prism, cylinder, cone, and square-based pyramid.
		4.5.6 Identify, describe, and define geometric figures.	**4.5.6** Identify geometric figures such as points, intersecting, perpendicular, and parallel lines and line segments, rays, angles, and planes. Item might ask which drawing represents a certain geometric figure as described in the standard. Angles may include acute, obtuse, right and straight.
	Procedures		
	Problem Solving	**4.5.4** Predict the effects of combining, dividing, and changing shapes into other shapes.	**4.5.4** Two-dimensional figures: circle, triangle, rectangle, square, rhombus, hexagon, octagon and trapezoid. Three-dimensional figures: cube, sphere, rectangular prism, triangular prism, cylinder, cone, and square-based pyramid.

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Prioritized Standards		Knowledge/Skills Assessed	Item Specifications
5.5.1 Collect, organize, read, and interpret data using a variety of graphic representations including tables, line plots, stem and leaf plots, scatter plots, and histograms; use data to draw and explain conclusions and predictions. (C, P, PS) **5.5.4** Model and then compute measures of central tendency including mean, median, and mode. (P, PS)	**Concepts**	**5.5.1** Read a variety of graphic interpretations including: tables, line plots, stem and leaf plots, scatter plots, and histograms.	**5.5.1** Items may ask questions on display data only. No computations.
	Procedures	**5.5.1** Organize data using a variety of graphic representations including tables, line plots, stem and leaf plots, scatter plots, and histograms. **5.5.4** Compute measures of central tendency including mean, median, and mode.	**5.5.1** Items should ask students to recognize the correct display. Organization of information may demand computation from the various displays. **5.5.4** Data can be shown in list format or in a display.
	Problem Solving	**5.5.1** Organize and interpret data using a variety of graphic representations including tables, line plots, stem and leaf plots, scatter plots, and histograms. Then use the data to explain conclusions and make predictions. **5.5.4** Compute measures of central tendency including mean, median, and mode in real-world problem situations.	**5.5.1** Use and create displays to solve simple problems. Only **Constructed Response** items may ask the students to organize data. The interpretation and explanation of conclusions based on data may be assessed in any problem solving item, (multiple choice and constructed response).